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## HIV infection in orphanages in South Western Nigeria

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Running Head: HIV infection in orphanages

**Abstract***Background:* As a result of the expanding HIV epidemic, affected children may end up in institutionalized care.

*Objectives:* To determine the prevalence of HIV infection among children into orphanages in South Western Nigeria. Admission policies, knowledge and attitude of caregivers with respect to HIV were also assessed

*Design:* This was a cross sectional study in which interviewer administered questionnaires were used to collect information on consecutive children, heads of the orphanages and caregivers. Rapid HIV antibody testing was carried out.

*Results:* A total of 190 children were enrolled from 7 homes with males accounting for 89 (46.8%). The main reasons for admission into the orphanages were; orphaned 85 (44.7%), abandoned 79 (41.6%) and mental illness in mother 11(5.8%). Two children were HIV positive, giving a prevalence rate of 1.05%. All the homes (100%) had a policy which excluded admission of HIV positive children but seldom carried out HIV testing at entry. Fear of disease transmission to others was the reason given for not admitting such children.

*Conclusion:* The policy which excluded admission of HIV infected children may have contributed to the low prevalence of the infection in the orphanages. There needs to be a reform on the current policies in order to reduce discrimination against HIV orphans.

### Background

Orphans, abandoned and some other vulnerable children are deprived of their first line of protection which is their parents. Although this is a worldwide phenomenon, the problem is more prevalent in developing countries which are areas more directly affected by war, AIDS, and natural disasters.<sup>1</sup> There is an increase in the number of orphans which is mainly fuelled by the increasing HIV/AIDS pandemic that has slowed down or reversed the gains of the child survival efforts of the last decade in many African countries. It is estimated that more than 15 million children under 18 have been

orphaned as a result of AIDS and around 11.6 million of these children live in sub-Saharan Africa.<sup>2</sup>

Nigeria has the highest burden of mother to child transmission and paediatric HIV disease in the world with an estimated 240,000 children <15 years old accounting for 14% of total African burden.<sup>3</sup> One of the impacts of HIV in children in Nigeria is the emerging cohort of AIDS orphans and other vulnerable children (OVCs), who have lost one or both of their parents to AIDS.<sup>4</sup> The estimated number of AIDS orphans in Nigeria at the end of 2007 was 1,200,000.<sup>5</sup> These children, who are either infected or affected, are often in need of social support. The extended family system would usually absorb the

care of such children.<sup>6</sup> Although children are best cared for in the family setting, the current extended family system may not be able to cope with the care of children affected by the expanding HIV epidemic. However as a result of the increasing number of orphans, the system may be overwhelmed and some of the orphans may end up in institutionalized care.

The social circumstances that resulted in the placement of these children in institutionalized care including abandonment and maternal death, place them at high risk for perinatally acquired HIV infection. Therefore determining the status of these children is pertinent. Nicholas et al in their inner city New York study reported that newborns placed in foster care at the time of hospital discharge were 8 times more likely to have been born to HIV-infected women than were newborns discharged to the care of their mothers.<sup>7</sup>

As a result of the recent advances in medical management of HIV-exposed and HIV-infected children, it is necessary to test children in orphanages in order to provide care where necessary. Without intervention, at least a third of children born with HIV will die from an HIV-related cause by their first birthday, and half will die before their second.<sup>8</sup> Older children should also be screened since studies have shown that HIV-infected children may remain asymptomatic for years or have mild non-specific symptoms that are not recognized as secondary to HIV infection.<sup>9</sup>

The aim of this study was to determine the HIV prevalence of the children currently admitted in orphanages in South Western Nigeria. The admission policy of the homes with regards to HIV positive children was examined. The study also accessed the knowledge and attitude of caregivers towards care of such children. The results may provide valuable data which could be used to improve attitudes and practices of caregivers in caring for AIDS orphans.

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## Methods

The study was carried out between September and November 2008. By convenience sampling, a total of seven institutions in Ibadan and one in Ijebu-Ode in South Western Nigeria were selected for the study on the basis of their being registered by the government and being well established. An institution in this study refers to orphanages or motherless babies' homes as they are sometimes called. They are managed by private governing councils, religious or other voluntary organizations. There was total sampling of the children from the institutions. Information on the circumstances of the admission of the children was obtained. Every child

had a thorough physical examination and a double rapid HIV antibody testing in parallel using Determine<sup>R</sup> HIV 1/2 (manufactured for Abbott Laboratories by Abbott Co., Ltd. Minto-Ku, Tokyo, Japan) and Stat pak<sup>R</sup> (by Chembio Diagnostics systems, Inc. Medford, New York 11763 USA). Reactive test results were confirmed by western blot. The policy of the homes in relation to admission of children with suspected or confirmed HIV infection was documented based on an interview with the heads of the institution enquiring whether the children were screened for HIV before admission into the homes and the homes' decision in the event that a child tested positive. Structured questionnaires were administered to the caregivers by trained interviewers. The information sought included their *demographic characteristics, knowledge about risk of transmission of HIV infection, through the routine activities of the home including; playing with the children, carrying, feeding and changing their nappies. There were 10 questions and a score of one was assigned to each item bringing the total to 10. A score of = 8 was ascribed as "good" and less than 8 was ascribed as "poor".* The caregivers' beliefs and attitude were ascertained through questions asked about care of HIV positive children. For instance whether they would care for an HIV positive child, if they were aware of the status and whether they would continue working in the home if they became aware that a child was HIV positive.

Consent was granted by the head of each institution. Informed consent was obtained from the caregivers. Permission was obtained from the boards of managements of the institutions and the project was approved by Oyo State Ethical Research Committee. Data were analyzed using SPSS 16.0 version of windows. Means and standard deviations were computed for age and frequencies used in presentation of categorical variables.

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## Results

Permission was denied by one of the homes for its children to be enrolled into the study but the caregivers were allowed to participate as long as individual consents were obtained from them.

One hundred and ninety children were studied in the seven institutions. Males accounted for 89(46.8%) and females 101 (53.2%) of the inmates. The number of children in each institution ranged between 12 and 92. The ages of the children ranged between 1.1 and 180 months with a median of 108 months. Of the total number, 10 (5.3%) were less than 1 year; 40(21. %) were aged 1-4 years while 140 (73.7%) were between 5-15 years (Table 1).

The reasons for admission of the children included

orphans 85 (44.7%), abandoned 79 (41.6%), mental illness in mother 11 (5.8%) and others 15 (7.9%). Included among the others were history of rape in mother, separation of parents and indigence. Among 154 children with available information on the age at admission, 62 (40.3%) were admitted into the institutions in infancy.

#### *Prevalence of HIV infection*

The prevalence of HIV infection was 1.05% (2/190) and both were males who had advanced clinical disease. The younger child had been abandoned by the mother at a bus terminal and the age was estimated as 3 years. He was not acutely ill but was small for age, stunted and had skin lesions. The second child, who was aged 14 years at the time of the study, was brought to the institution four years before. His older sibling who was also residing in the orphanage was HIV negative. Their mother was reported to be a commercial sex worker who had died from unknown illness. He became symptomatic with oral thrush and chronic cough only within the last two months. He was also reported to have been sexually active. The two children commenced HIV care including Anti Retroviral Therapy (ART) in an HIV programme in a health facility. Care givers were identified by the programme from each of their institutions and educated on adherence and other aspects of the required care of the children. The older child was relocated from the orphanage after six months.

#### *Institutional policies on admission of HIV infected children*

Among the eight institutions enrolled into the study, all had an exclusion policy towards HIV positive children. Enquiries were usually made as to the cause of death of the mother and for motherless babies, death certificates of their mothers were requested. Children suspected or confirmed to have HIV infection were not accepted into the institutions but only five of them occasionally carried out irregular routine HIV screening on new entrants. Fear of disease transmission to other children and care givers was the major reason given by all the eight heads of the institutions for not accepting such children.

#### *Care givers' characteristics, knowledge and attitude towards care of HIV infected children*

There were a total of 35 care givers involved in the direct care of the children. Their ages ranged between 18 and 58 years with a mean of 35 years. Table 2 shows that there were 31 (88.6%) females

And 4 (11.4%) males. Nineteen (54.3%) had at least secondary education. Out of 35 respondents, 5 (14.3%) of the caregivers had prior HIV testing. Eighteen caregivers were screened for HIV during the study and two were positive. Among the caregivers, knowledge about the risk of transmission of HIV infection was poor in 21 (60.0%). Only 8 (22.9%) of the caregivers had participated in an organized workshop on HIV/AIDS.

Table 3 shows the caregivers' attitude and beliefs towards care of HIV infected children.

Among the caregivers, 16 (45.7%) would care for an HIV positive child. All the caregivers (100%) believed that HIV positive children should not be admitted into the home and only 29% believed that if a child already residing in the home was diagnosed to have HIV, he/she be allowed to continue residing in the home. Only 9 (26%) were aware that HIV medicine was available for treatment of children with the disease.

**Table 1:** Age, sex and reasons for admission of children admitted into the institutions (n = 190)

Variable	No (N=190)	%
Age		
0 – 11 months	10	5.3
12-59 months	40	21.0
60-180 months	140	73.6
Sex		
Male	89	46.8
Female	101	53.2
Reasons for admission		
Orphans	85	44.7
Abandoned	79	41.6
Mental illness in mother	11	5.8
Others	15	7.9

**Table 2:** Care givers' characteristics and knowledge about HIV transmission (N = 35)

Characteristic	N=35	%
Sex		
Female	31	88.6
No with = secondary education	19	54.2
No with prior HIV test?	5	14.3
Good knowledge of HIV/AIDS transmission	14	40.0
Participation in HIV/AIDS workshop	8	22.9

into the homes but only 14% of them had themselves been tested for HIV. Discrimination against children with HIV had been reported in similar settings. Marrow et al,<sup>19</sup> in their study of knowledge and attitudes of day care providers regarding children and infection with the HIV, reported that 48% of caregivers would care for a child infected with HIV in their classroom. Ohnishi et al<sup>20</sup> had shown some correlation between caregivers' knowledge regarding HIV/AIDS and positive attitudes towards HIV/AIDS orphans. Caregivers need to be educated on HIV/AIDS in order to correct misconceptions. The management of orphanage homes should ensure that all the staff taking care of the children, as part of the orientation at recruitment, should be educated on HIV infection; modes of transmission and infection control guidelines appropriate in the home setting.

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### Conclusion

The policy which excluded admission of HIV infected children may have contributed to the low prevalence of the infection in the orphanages. There

needs to be a reform on the current policies in order to reduce discrimination against HIV orphans. Policies that will impact positively on AIDS orphans are required in order to reduce the stigma and discrimination that lead to exclusion of the children from admission into institutions. Majority of the caregivers involved in direct care of the institutionalized children were reluctant to care for HIV positive children. All persons who care for children in these childcare institutions should also receive education about HIV infection.

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**Table 3:** Care givers' attitude and beliefs towards caring for HIV infected children (N=35)

Question	Yes (N=35)
Would you care for a child in the home if he/she is HIV positive?	16(46%)
If a child already residing in the home is diagnosed to have HIV, should he/she be allowed to continue residing in the home?	10(29%)
Should HIV positive children be admitted into the home?	0(0%)
All children admitted into the home should have HIV test?	24(69%)
HIV medicine is available for treatment of children with the disease	9(26%)

## Discussion

Our study found that the prevalence of HIV among the children admitted into the institutions was 1.05%. This was lower than the prevalence of HIV in the state which was 2.2% in the 2008 sentinel survey that derived its estimate from pregnant women attending antenatal clinics.<sup>10</sup> It would have been expected that with the high morbidity and mortality related to HIV among women of child bearing age,<sup>11</sup> that there will be a corresponding increase in the number of infected orphans in the institutions. Vertical transmission accounts for 90% of paediatric HIV infection<sup>12</sup> and in the absence of PMTCT interventions, transmission rates of perinatally acquired HIV infection have been estimated to be 25-40%.<sup>13</sup> The policy which existed in all the institutions against admission of HIV positive children might have contributed to the low HIV prevalence among institutionalized children in this study. However, the orphanages were not carrying out routine HIV screening regularly and HIV infected children may be asymptomatic, thus escaping detection at entry. In a Rwandan Study, the prevalence 2.6% of HIV infection in institutions was equally low.<sup>14</sup> In the latter study, HIV screening was also not carried out routinely except in symptomatic children. The actual prevalence of HIV infection might have been higher in that community. HIV infected children need to be identified early in order to institute interventions that improve the outcome of the disease including combination antiretroviral therapy where necessary. Early identification had been missed in the two HIV infected children in our study as they were both in advanced stages of the disease at the time they were diagnosed.

A comparable study carried out in Port Harcourt in the South-South region of the country, which evaluated the sero-prevalence of HIV infection amongst abandoned children reported a prevalence

rate of 13.6%.<sup>15</sup> The large difference between the prevalence rates from the two studies may have resulted from the fact that the Port Harcourt study was conducted amongst abandoned children who were institutionalized. Children may be abandoned as a result of varied social circumstances, debilities and illnesses. One of the social issues raised was that their mothers might have had HIV infection and thus abandoned them for fear of stigmatization, discrimination and burden of care. While abandoned children constituted only 41.6% of the study population, there were other categories of children admitted into the institutions that were studied. Orphans accounted for 44.7%. In the study by Malabika et al<sup>16</sup>, in central Kampala, Uganda, it was reported that 41% of the young orphans were AIDS orphans. In a population-based survey in a city in southern Brazil which set out to study factors associated with the institutionalization of AIDS orphans, out of 1131 orphans identified, only 5% lived in institutions. The study also reported that the orphans who were HIV positive were more likely to be institutionalized.<sup>17</sup>

It is recommended in some settings that HIV-infected children should be admitted without restriction to child care centers.<sup>18</sup> The current policy for all the institutions studied was that HIV positive children were excluded from admission into the homes. The implication of this is that these institutions may not be the place to search for HIV positive children. Another implication is that abandoned children with no known family relations and who are found to be HIV positive may have difficulty with placement in institutions. A previous study that compared orphans and non orphans in an HIV programme corroborated this as it reported that out of the 110 children, orphans constituted 36.4% and none was in institutional care.<sup>6</sup> It may then mean that currently, care of most of the children made vulnerable by AIDS rests mainly on the traditional extended family system. The extended family is the traditional social security system in many developing countries but the AIDS epidemic may be stretching most communities to a breaking point such that many affected children may later end up in institutional care. Access to optimal HIV care for adults and improved PMTCT coverage are crucial in reducing morbidity and mortality among individuals with the infection especially the women. The orphan crisis and the need for institutionalization of such children will ultimately be reduced.

With regards to the care givers who were responsible for the direct care of the children, only 40.0% had good knowledge about risk of transmission of HIV infection, a small percentage (22.9%) had training on HIV/AIDS and 45.7% would care for HIV infected children. Interestingly, all the caregivers believed that HIV positive children should not be admitted

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